

has been cancelled. Applicants submit that the present Amendment does not generate any new matter issue.

In the first enumerated paragraph of the Office Action, the Examiner objected to the drawings pursuant to 37 C.F.R. § 1.83(a), requiring depiction of the claimed retention device in claim 6. In response, it is proposed to amend Fig. 7a, as indicated in red on the attached photocopy, to depict the required retention device and to amend the specification to label the retention device described on page 20 with reference numeral 81.

In the second enumerated paragraph of the Office Action, the Examiner objected to the drawings pursuant to 37 C.F.R. § 1.83(p)(4), asserting that reference numeral 21 has been used to designate both a driver section and an extension section. In response, it is proposed to amend Fig. 1b, as indicated in red on the attached photocopy, to label the extension section with reference numeral 16, consistent with page 6 of the specification. Accompanying this Amendment is a Request for Approval of Drawing Amendment and proposed drawing corrections for Figs. 1b and 7a with the changes indicated in red ink. Applicants, therefore, respectfully submit that the imposed objections to the drawings have been overcome and, hence, solicit withdrawal thereof.

Claim 18 is rejected under the second paragraph of 35 U.S.C. § 112

In the third enumerated paragraph of the Office Action, the Examiner asserted a lack of antecedent basis for the recitation "the target" in claim 18. Claim 18 has been amended to address this informality. As such, the imposed rejection of claim 18 under the second paragraph

of 35 U.S.C. § 112 have been overcome and, hence, Applicants respectfully solicit withdrawal thereof.

Claims 1-6 are rejected under 35 U.S.C. § 102(b) for lack of novelty as evidenced by Osofsky, U.S. Patent No. 5,197,323

In the fourth enumerated paragraph of the Office Action, the Examiner asserted that Osofsky discloses a shock tube corresponding to that claimed. This rejection is respectfully traversed.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that one having ordinary skill in the art would have recognized that the identically claimed invention is within the public domain.¹ Furthermore, the Examiner must also establish that the applied reference identically discloses each feature of the claimed invention.² As part of this analysis, the Examiner must (a) identify the elements of the claims, (b) determine the meaning of the elements in light of the specification and prosecution history, and (c) identify corresponding elements disclosed in the allegedly anticipating reference.³

Applicants submit that the Examiner did not discharge the initial burden of establishing a prima facie basis to deny patentability to the claimed invention under 35 U.S.C. §102 for lack of

¹ ATD Corporation v. Lydall, Inc., 159 F.3d 534, 48 USPQ2d 1321 (Fed. Cir. 1998); Electro Medical Systems S.A. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994).

² In re Rijckaert, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); Lindermann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

³ Lindermann Maschinenfabrik GMBH v. American Hoist & Derrick Co., *supra*.

novelty, as the Examiner's reliance upon the doctrine of inherency is misplaced. On page three of the Office Action, the Examiner asserted the following:

With respect to claim the shock absorbent material and retention device in claims 1-6, it is inherent that the shock tube would contain some type of shock absorbent material in order to absorb some of the shockwaves/vibrations within the tube. It is also inherent to have some type of retention device to hold/secure the material in the tube.

Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.⁴ To establish inherency, the extrinsic evidence must make clear that the missing element must necessarily be present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.⁵ Furthermore, as articulated by the Honorable Board of Patent Appeals and Interferences in ex parte Schricker, 56 USPQ2d 1723, 1725 (BPAI 2000):

However, when an examiner relies on inherency, it is incumbent on the examiner to point to the "page and line" of the prior art which justifies an inherency theory. Compare, In re Rijckaert, 9 F.3d 1531, 1533, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the prior art); In re Yates, 663 F.2d 1054, 107, 211 USPQ 1149, 1151 (CCPA 1981).

The Examiner did not discharge the burden of indicating where a teaching can be found in the prior art that establishes shock absorbent material must necessarily be present in a shock tube.

Thus, the Examiner has not established that this limitation is inherently disclosed by Osofsky. In this regard, the Examiner is also referred to M.P.E.P. § 2112, entitled "Requirements of Rejection Based on Inherency; Burden of Proof."

⁴ In re Rijckaert, *supra* (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); In re Oelrich, 666 F.2d 578, 212 USPQ 323, (CCPA 1981).

⁵ Finnegan Corp. v. ITC, 180 F.3d 1354, 51 USPQ2d 1001 (Fed. Cir. 1999); In re Robertson, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999); Continental Can Co. USA v. Monsanto Co., 20 USPQ 2d 1746 (Fed. Cir. 1991); Ex parte Levy, 17 USPQ2d 1461 (BPAI 1990).

As the Examiner has failed to establish that Osofsky teaches or suggests the use of a shock absorbent material, as recited in claim 1 and referred to in claims 2-3 and 5-6, there are significant differences between the cited prior art and the invention defined in claims 1-6 that would preclude a factual determination that Osofsky identically describes the claimed invention within the meaning of 35 U.S.C. § 102. Applicants, therefore, respectfully submit that the imposed rejection of claims 1-6 under 35 U.S.C. § 102 for lack of novelty as evidenced by Osofsky is not factually viable and, hence, solicit withdrawal thereof.

Claims 7-15 are rejected under 35 U.S.C. § 103 for obviousness based upon Osofsky in view of McCabe et al., U.S. Patent No. 5,405,779 (hereinafter McCabe), and Spyche, Jr., U.S. Patent No. 5,598,904 (hereinafter Spyche)

In the fifth enumerated paragraph of the Office Action, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the shock tube of Osofsky in view McCabe and Spyche to arrive at the claimed invention. This rejection is respectfully traversed.

Initially, Applicants respectfully submit that McCabe is non-analogous prior art that cannot be applied against the claimed invention. Whether a prior art reference is from a nonanalogous art involves (a) determining whether the reference is within the same field of endeavor and (b) determining whether the reference reasonably pertinent to the particular problem with which the inventor is involved.⁶ If the prior art is outside the inventor's field of endeavor, the inventor will only be presumed to have knowledge of prior art that is reasonably

⁶ In re Clay, 23 USPQ2d 1058 (Fed Cir. 1992).

pertinent to the problem being addressed.⁷ The Examiner is also charged to consider "'the reality of the circumstances' ... in other words, common sense" to determine what field a person of ordinary skill in the art would reasonably be expected to look.⁸ With regard to this issue, the Examiner is also referred to M.P.E.P. § 2141.01, entitled "Analogous and Nonanalogous Art."

Whereas the claimed invention is directed to shock tubes (i.e., devices used for testing the effects of shock waves), the apparatus of McCabe is used for inserting foreign genetic material into the tissues of living organisms (column 1, lines 7-9). Thus, the shock tube of the claimed invention and the apparatus for genetic transformation of McCabe are not within the same field of endeavor. Furthermore, the claimed invention is directed to, in part, solving the problem of how to control rarefaction and secondary shock waves so as to provide an idealized target load (page two of Applicants' disclosure). In contrast, McCabe describes a device that dissipates excess pressure but does not describe or suggest controlling rarefaction and secondary shock waves. As McCabe is silent as to rarefaction and secondary shock waves, common sense would dictate that McCabe is not reasonably pertinent to controlling rarefaction and secondary shock waves. Thus, the inescapable conclusion is that McCabe is non-analogous prior art that cannot be applied against the claimed invention.

Notwithstanding that McCabe is non-analogous prior art, the Examiner has not established a prima facie basis to deny patentability to the claimed invention under 35 U.S.C. § 103 for lack of the requisite factual basis and lack of the requisite realistic motivation.⁹ The Examiner admits

⁷ In re Wood, 202 USPQ 171 (C.C.P.A. 1979).

⁸ In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

⁹ In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to identify a source in the applied prior art for: (1) claim limitations; and (2) the motivation to combine references or modify a reference in the reasonable expectation of

that Osofsky teaches an active vent disposed over a hole in the extension section. The Examiner then stated that "McCabe et al. teaches at least one active vent/pressure release door (56)."

Notwithstanding that McCabe teaches a pressure release door, the Examiner has failed to establish that the pressure release door of McCabe is an active vent or the pressure release door of McCabe is to be located disposed over a hole in an extension section.

As part of a prima facie analysis of obviousness, the Examiner is to construe each term in the claim consistent with the specification. See 37 C.F.R. § 1.56(b)(2)(ii). This allows Applicants fair opportunity to evaluate the teachings of the applied prior, as compared to the claimed invention. As discussed in M.P.E.P. § 706.02(j), "[it] is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply." The Examiner, however, has failed to construe the term "active vent" consistent with the specification. As described on page 10 of Applicants' disclosure: "an active vent ... opens at the initiation of a positive pressure phase and closes near the end of the positive pressure phase or the beginning of the negative pressure phase." There is no indication that the pressure release door 56 of McCabe is so capable. As such, one having ordinary skill in the art would not recognize the pressure release door of McCabe as teaching or suggesting the claimed active vent.

Furthermore, the pressure release door 56 of McCabe is located so that "most of the pressure generated after the shock wave to exit the apparatus in the direction opposite to a delicate target sample" (column 2, lines 33-35). Thus, if one having ordinary skill in the art were motivated to

achieving a particular benefit. Smiths Industries Medical System v. Vital Signs Inc., 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999). In so doing, it is legally erroneous to ignore any claim limitation. Uniroyal, Inc. v. Rudkin-

modify Osofsky in view of McCabe to add a pressure release door, the pressure release door would be located at the end of the driver unit 12 of Osofsky, which is in the opposite direction of expansion tube 35. Thus, McCabe teaches away from the claimed invention by advocating that the pressure release door be located in a position other than extension section, in contrast to that recited in claim 7. This teaching away from the claimed invention by an allegedly teaching reference constitutes potent evidence of nonobviousness, not obviousness.¹⁰

With regard to the Examiner assertion that one having ordinary skill in the art would have been motivated to modify Osofsky in view of McCabe to add the pressure release door "in order to dissipate excess pressure, Applicants stress that the requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103 requires not only a suggestion but a reasonable expectation of success as to a particular benefit.¹¹ The Examiner has failed to supply any support that a feature to "dissipate excess pressure" would be recognized by one having ordinary skill in the art at the time of the invention as being a benefit in the field of shock tubes. The device of McCabe is concerned with protecting the "delicate" target, and as such, dissipating excess pressure would be of use in such a situation. This benefit, however, does not apply to shock tubes. As such, the Examiner asserted benefit of dissipating excess pressure would not have motivated one having ordinary skill in the art to modify Osofsky in view of McCabe. The Examiner's citation to Spyche only presents one form of an energy absorption device, but this reference does not provide the motivation to modify Osofsky to provide an active vent over a

Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

¹⁰ See, Tec Air, Inc. v. Denso Mfg. Michigan, Inc., 192 F.3d 1353, 52 USPQ2d 1294 (Fed. Cir. 1999); In re Bell, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); In re Hedges, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986); W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Marshall, 578 F.2d 301, 198 USPQ 344 (CCPA 1978).

¹¹ In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

hole in an extension section. Applicants, therefore, respectfully submit that the imposed rejection of claims 7-15 under 35 U.S.C. § 103 for obviousness predicated upon Osofsky in view McCabe and Spyche is not viable and, hence, solicit withdrawal thereof.

Claims 16-21 are rejected under 35 U.S.C. § 103 for obviousness based upon Osofsky in view of Lacey, Jr., U.S. Patent No. 5,197,323 (hereinafter Lacey)

In the sixth enumerated paragraph of the Office Action, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the shock tube of Osofsky in view Lacey to arrive at the claimed invention. This rejection is respectfully traversed.

In the statement of the rejection with regard to the requisite motivation to combine the applied prior art, the Examiner stated:

Lacey, Jr. teaches an extension section (12) is adjustable between one of at least two positions (Col. 4, lines 16-21)(Fig. 1b). It would have been obvious at the time of the invention was made to a person having ordinary skill in the art to modify Osofsky to include an adjustable extension section, to vary the length of the tube, as a simple design choice.

The Examiner has again not established a prima facie basis to deny patentability to the claimed invention under 35 U.S.C. § 103 for lack of the requisite factual basis and lack of the requisite realistic motivation. It has been repeatedly held by the Court of Appeals for the Federal Circuit that in order to establish the requisite motivation, the Examiner must make "clear and particular" factual findings as to a specific understanding or specific technological principle which would have realistically impelled one having ordinary skill in the art to modify a particular prior art reference to arrive at the claimed invention based upon facts, not

generalizations.¹² Furthermore, the Examiner's "matter of design choice" assertion is legally erroneous, as Court of Appeals for the Federal Circuit has repeatedly judicially condemned the "matter of design choice" approach to the motivational element.¹³ Thus, the Examiner has failed to supply the requisite motivation to modify Osofsky in view of Lacey.

Furthermore, the Examiner has failed to establish that Lacey teaches an extension section is adjustable between one of at least two positions. For this teaching, the Examiner cited column 4, lines 16-21 of Lacey, which is reproduced below:

The actual length of the shock tube 12 is a matter of design based upon the test conditions desired and various other parameters. In the preferred embodiment, the test tube 12 is comprised of a plurality of shock tube sections 34 which are connected in end-to-end relationship with one another via the split hub clamps 35.

Although this citation indicates that the length of the shock tube 12 can vary, Lacey does not teach an extension section that is adjustable between one of at least two positions such that a length of the extension section in positions is longer than a length of an extension section in a second position. The shock tube sections 34 of Lacey are not taught as being adjustable. Thus, even if the Osofsky were modified in view of Lacey, the claimed invention would not result.

With regard to claim 17, the Examiner asserted that Osofsky teaches an expansion section 30 connecting the extension section 35 to the driver section 12 and the expansion section 30 is movable within the extension section 35. This assertion, however, is in error. Referring to Fig. 1 of Osofsky, the extension section 35 is connected directly to the driver section 12/15. Thus, the expansion section 30 of Osofsky does not connect the extension section to the driver section

¹² Ruiz v. A.B. Chance Co., 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); Ecolchem Inc. v. Southern California Edison Co., 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); In re Kotzab, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); In re Dembiczak, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999).

12/15. Furthermore, the Examiner has failed to identify where Osofsky teaches that the expansion section 30 is movable within the extension 35. Therefore, claim 17 further distinguishes the claimed invention over the combination of Osofsky and Lacey.

With regard to claim 18, the Examiner has stated that it is "commonly known in the art to provide some type of support to hold/secure the target/test device." Notwithstanding whether this statement is true or not, the Examiner has not established that it is commonly known in the art to place the target within the extension section.

It should, therefore, be apparent that the Examiner did not discharge the initial burden of establishing a prima facie case of obviousness under 35 U.S.C. § 103. Applicants, therefore, respectfully submit that the imposed rejection of claims 16-20 under 35 U.S.C. § 103 for obviousness predicated upon Osofsky in view of Lacey is not factually or legally viable and, hence, solicit withdrawal thereof.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. However, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. Accordingly, and in view of the foregoing

¹³ In re Chu, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995); In re Gal, 980 F.2d 717, 25 USPQ2d 1076 (Fed. Cir. 1992); In re Bezombes, 420 F.2d 1070, 164 USPQ 387 (CCPA 1970).

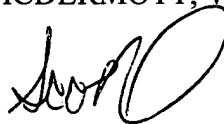
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remarks, Applicants hereby respectfully request reconsideration and prompt allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417, and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY



Scott D. Paul
Registration No. 42,984

600 13th Street, N.W.
Washington, DC 20005-3096
(202) 756-8000 SDP:ejb
Date: January 21, 2003
Facsimile: (202) 756-8087

Version with markings to show changes made

IN THE SPECIFICATION:

Please delete the second full paragraph in page 20 in its entirety and replace with the following:

-- The only shock absorbent material tested in the expansion section 14, as illustrated in Fig. 7a, was sisal due to the retention requirements such that the shock and pressure waves passing through this section 15 do not displace the material. A retention device 81 is used to keep the shock absorbent material 80 in place. Although any retention device so capable is acceptable for use with the shock tube, in a current aspect, the retention device utilized to retain the sisal within the expansion section included 1/16 inch thick flattened expanded metal panels ($\frac{1}{2}$ and $\frac{3}{4}$ inch openings), which were bolted to the expansion section.--

IN THE CLAIMS:

A clean version of the claims that have been amended appear below:

18. (Amended) The shock tube according to claim 16, further comprising a support for holding [the] a target, and the support is adjustably positionable within the extension section.